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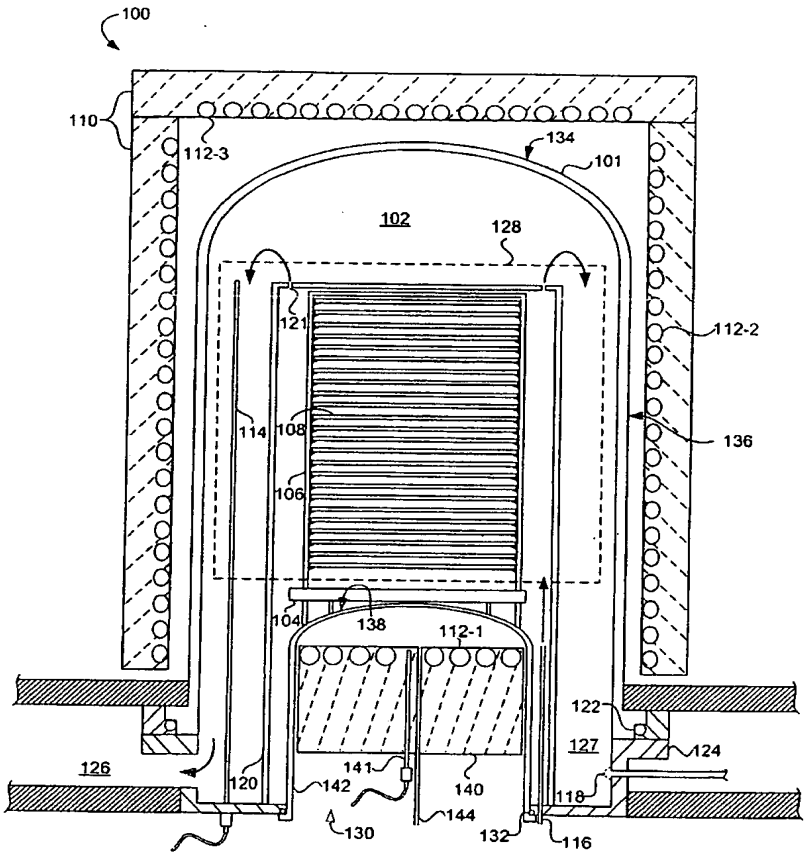
(54) Title: THERMAL PROCESSING SYSTEM AND CONFIGURABLE VERTICAL CHAMBER



(57) Abstract: An apparatus (100) and method are provided for thermally processing substrates (108) held in a carrier (106). The apparatus (100) includes a vessel (101) having a top (134), side (136) and bottom (138), and a heat source (110) with heating elements (112-1, 112-2, 112-3) proximal thereto. The vessel (101) is sized to enclose a volume substantially no larger than necessary to accommodate the carrier (106), and to provide an isothermal process zone (128) extending throughout. In one embodiment, the bottom wall (138) includes a movable pedestal (140) with a bottom heating element therein (112-1), and the pedestal can be lowered and raised to insert the carrier (106) into the vessel (101). The apparatus (100) can include a movable shield (146) that is inserted between the pedestal (140) and the carrier (106) to shield the substrates (108) from the heating element (112-1) and to maintain pedestal temperature. A magnetically coupled repositioning system (162) repositions the carrier (106) during processing of the substrates (108) without use of a movable feedthrough into the volume enclosed by the vessel (101), and without moving the bottom heating element (112-1) in the pedestal (140).

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